

THE CLAIMS

What is claimed:

1. A bone plating system for fixation of bone comprising:
a bone plate having:
 - 5 an upper surface;
 - a lower surface;
 - at least one threaded hole passing through the upper and lower surfaces; and
 - at least one non-threaded hole passing through the upper and lower surfaces;a first screw having a shaft with a thread for engaging bone and a head with a thread
 - 10 configured and dimensioned to mate with the threaded hole; and
 - a second screw having a shaft with a thread for engaging bone and a head, wherein the first and second screws remain seated in their respective holes for substantially as long as the bone plate is implanted;wherein the bone plate includes a head portion configured and dimensioned to
 - 15 conform to a metaphysis of a bone and a shaft portion configured and dimensioned to conform to a diaphysis of a bone and wherein the head portion has a curved surface, includes an anterior fork substantially parallel to an anterior side of the shaft portion, and includes a posterior fork extending out from a posterior side of the shaft portion.
- 20 2. The bone plating system of claim 1, wherein the at least one threaded hole has a double lead thread.
3. The bone plating system of claim 1, wherein the head of the first screw has a double lead thread.
- 25 4. The bone plating system of claim 1, wherein the head portion is twisted.
5. The bone plating system of claim 1, wherein the head portion is tapered.
- 30 6. The bone plating system of claim 1, wherein the head portion includes at least one suture hole.
7. The bone plating system of claim 1, wherein the shaft portion terminates in a tapered tail.

8. The bone plating system of claim 1, wherein only threaded holes are located in the head portion.
9. The bone plating system of claim 1, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the first threaded hole and the second threaded hole have different diameters.
10. The bone plating system of claim 1, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the axes of the first and second threaded holes converge.
11. A bone plating system for fixation of bone comprising:
a bone plate having:
an upper surface;
a lower surface;
at least one threaded hole passing through the upper and lower surfaces; and
at least one non-threaded hole passing through the upper and lower surfaces;
a first screw having a shaft with a thread for engaging bone and a head with a thread configured and dimensioned to mate with the threaded hole; and
a second screw having a shaft with a thread for engaging bone and a head, wherein the first and second screws remain seated in their respective holes for substantially as long as the bone plate is implanted;
wherein the bone plate includes a head portion configured and dimensioned to conform to a metaphysis of a bone and a shaft portion configured and dimensioned to conform to a diaphysis of a bone and wherein the shaft portion includes at least one threaded hole and at least one non-threaded hole.
12. The bone plating system of claim 11, wherein the at least one threaded hole has a double lead thread.
13. The bone plating system of claim 11, wherein the head of the first screw has a double lead thread.
14. The bone plating system of claim 11, wherein the head portion is twisted.

15. The bone plating system of claim 11, wherein the head portion is tapered.
- 16 The bone plating system of claim 11, wherein the head portion is curved.
- 5 17. The bone plating system of claim 11, wherein the head portion includes at least one suture hole.
18. The bone plating system of claim 11, wherein the shaft portion terminates in a tapered tail.
- 10 19. The bone plating system of claim 11, wherein only threaded holes are located in the head portion.
20. The bone plating system of claim 11, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the first threaded hole and the second threaded hole have different diameters.
- 15 21. The bone plating system of claim 11, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the axes of the first and second threaded holes converge.
- 20 22. A bone plating system for fixation of bone comprising:
a bone plate having:
an upper surface;
25 a lower surface;
at least one threaded hole passing through the upper and lower surfaces; and
at least one non-threaded hole passing through the upper and lower surfaces;
a first screw having a shaft with a thread for engaging bone and a head with a thread configured and dimensioned to mate with the threaded hole; and
30 a second screw having a shaft with a thread for engaging bone and a head, wherein the first and second screws remain seated in their respective holes for substantially as long as the bone plate is implanted;
wherein the bone plate includes a head portion configured and dimensioned to conform to a metaphysis of a bone and a shaft portion configured and dimensioned to conform to a diaphysis of a bone and wherein the shaft portion has a trapezoidal shaped
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cross-section in regions between the threaded and non-threaded holes for minimizing contact between bone and the lower surface.

23. The bone plating system of claim 22, wherein the at least one threaded hole has a
5 double lead thread.

24. The bone plating system of claim 22, wherein the head of the first screw has a double lead thread.

10 25. The bone plating system of claim 22, wherein the head portion is twisted.

26. The bone plating system of claim 22, wherein the head portion is tapered.

15 27. The bone plating system of claim 22, wherein the head portion is curved.

28. The bone plating system of claim 22, wherein the head portion includes at least one suture hole.

20 29. The bone plating system of claim 22, wherein the shaft portion terminates in a tapered tail.

30. The bone plating system of claim 22, wherein only threaded holes are located in the head portion.

25 31. The bone plating system of claim 22, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the first threaded hole and the second threaded hole have different diameters.

30 32. The bone plating system of claim 22, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the axes of the threaded holes converge.

35 33. A bone plating system for fixation of bone comprising:
a bone plate having:
an upper surface;

a lower surface;
at least one threaded hole passing through the upper and lower surfaces; and
at least one non-threaded hole passing through the upper and lower surfaces;
a first screw having a shaft with a thread for engaging bone and a head with a thread
5 configured and dimensioned to mate with the threaded hole; and
a second screw having a shaft with a thread for engaging bone and a head, wherein
the first and second screws remain seated in their respective holes for substantially as long
as the bone plate is implanted,
wherein the bone plate includes a head portion configured and dimensioned to
10 conform to a metaphysis of a bone and a shaft portion configured and dimensioned to
conform to a diaphysis of a bone and wherein the head portion flares outward from the
shaft.

34. The bone plating system of claim 33, wherein the at least one threaded hole has a
15 double lead thread.

35. The bone plating system of claim 33, wherein the head of the first screw has a
double lead thread.

20 36. The bone plating system of claim 33, wherein the head portion is twisted.

37. The bone plating system of claim 33, wherein the head portion is tapered.

38. The bone plating system of claim 33, wherein the head portion is curved.
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39. The bone plating system of claim 33, wherein the head portion includes at least one
suture hole.

40. The bone plating system of claim 33, wherein the shaft portion terminates in a
30 tapered tail.

41. The bone plating system of claim 33, wherein only threaded holes are located in the
head portion.

42. The bone plating system of claim 33, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the first threaded hole and the second threaded hole have different diameters.
- 5 43. The bone plating system of claim 33, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the axes of the first and second threaded holes converge.
44. A bone plating system for fixation of bone comprising:
- 10 a bone plate having:
- an upper surface;
 - a lower surface;
 - at least one threaded hole passing through the upper and lower surfaces; and
 - at least one non-threaded hole passing through the upper and lower surfaces;
- 15 a first screw having a shaft with a thread for engaging bone and a non-threaded head for engagement with the threaded hole; and
- a second screw having a shaft with a thread for engaging bone and a head, wherein the first and second screws remain seated in their respective holes for substantially as long as the bone plate is implanted.
- 20 45. The bone plating system of claim 44, wherein the bone plate includes a head portion configured and dimensioned to conform to a metaphysis of a bone and a shaft portion configured and dimensioned to conform to a diaphysis of a bone and wherein the head portion flares outward from the shaft.
- 25 46. The bone plating system of claim 45, wherein the head portion is twisted.
47. The bone plating system of claim 45, wherein the head portion is tapered.
- 30 48. The bone plating system of claim 45, wherein the head portion is curved.
49. The bone plating system of claim 45, wherein the head portion includes at least one suture hole.

50. The bone plating system of claim 45, wherein the shaft portion terminates in a tapered tail.

51. The bone plating system of claim 45, wherein only threaded holes are located in the head portion.

52. The bone plating system of claim 45, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the first threaded hole and the second threaded hole have different diameters.

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53. The bone plating system of claim 45, wherein at least a first threaded hole and a second threaded hole are located in the head portion, and the axes of the first and second threaded holes converge.

15 54. The bone plating system of claim 44, wherein the at least one threaded hole has a double lead thread.

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